DADE BEHRING

Material Safety Data Sheet

MicroScan® 10% Ferric Chloride

MSDS No. SAMS0007

1. Product and Company Identification

Product Trade Name MicroScan® 10% Ferric Chloride

Synonyms Ferric Chloride 10%

Validation Date 8 September 2004

Product Code B1010-48A B1015-48

Product Use Diagnostic Agents.

Product Information 800-677-7226

U.N. No. Not regulated.

Manufactured/ Supplied
Dade Behring Inc.
1584 Enterprise Blvd.
West Sacramento CA 95691
USA

In Case of Emergency
Transportation: (800) 424-9300 (CHEMTREC)
Medical: (800) 228-5635 ext. 284 (Prosar)

2. Composition and Information on Ingredients

Ingredient Name	Conc. (% w/w)	CAS No.	U.N. No.	EU Symbol	R-Phrases
Water	90	7732-18-5	Not applicable.	-	-
Iron (III) chloride, hexahydrate	9	10025-77-1	UN1773	Xn	R22, R38, R41
Hydrogen Chloride (HCl)	1	7647-01-0	UN1955	C	R34, R37

Note: See section 8 for occupational exposure limits and section 11 for LC50/LD50 information.

3. Hazards Identification

Primary Hazards and Critical Effects : CAUTION!
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: EYES, MUCOUS MEMBRANES, RESPIRATORY TRACT, SKIN, .
MAY BE HARMFUL IF SWALLOWED.

4. First Aid Measures

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

Ingestion : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Skin Contact : Wash with soap and water. Get medical attention if irritation develops.

Eye Contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

5. Fire-Fighting Measures

Extinguishing Media : In case of fire, use water spray (fog), foam or dry chemicals.

Fire-Fighting Procedures : Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Fire/Explosion Hazards : None identified.

Hazardous Decomposition Products : These products are halogenated compounds, hydrogen chloride. Some metallic oxides.

6. Accidental Release Measures

Personal Precautions : Use suitable protective equipment (Section 8).

Environmental Precautions and Clean-up Methods : Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Note: See section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and Storage

Handling : Avoid contact with eyes. Do not ingest. Wash thoroughly after handling.

Storage : Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure Controls and Personal Protection

Occupational Exposure Limits

Ingredient Name	OEL United States	OEL Canada
Hydrogen chloride	**ACGIH (United States, 1994).** CEIL: 5 ppm **NIOSH (United States, 1994).** CEIL: 5 mg/m^3 CEIL: 7 mg/m^3 **OSHA (United States, 1989).** CEIL: 5 ppm CEIL: 7 mg/m^3	Not available.

Engineering Controls : No special containment is required.

Personal Protective Equipment

Respiratory System : A respirator is not needed under normal and intended conditions of product use.

Skin and Body : Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.

Hands : Use chemical resistant, impervious gloves.

Eyes : Safety glasses. Goggles, face shield, or other full-face protection if potential exists for direct exposure to aerosols or splashes.

9. Physical and Chemical Properties

Physical State and Appearance : Liquid.

Color : Yellow.

pH : Acidic.

Specific Gravity : Weighted average: 1.05 (Water = 1)

Solubility : Easily soluble in cold water.
Soluble in hot water.
Partially soluble in methanol, diethyl ether, acetone.

10. Stability and Reactivity

Stability : The product is stable.

Conditions and Materials to Avoid : Slightly reactive to reactive with combustible materials, metals, alkalis.

Hazardous Decomposition Products : These products are halogenated compounds, hydrogen chloride.

11. Toxicological Information

Toxicity Data

Ingredient Name	Test	Result	Route	Species
Water	LD50	90000 mg/kg	Oral	Rat
Ferric chloride	LD50	450 mg/kg	Oral	Rat
	LDLo	900 mg/kg	Oral	Rat
Hydrogen chloride	LD50	915 mg/kg	Oral	rat
	LD50	151 mg/kg	Oral	mouse
	LDLo	150 mg/kg	Oral	mouse

Routes of Entry : Skin Contact Eye contact. Inhalation.

Acute Effects

Inhalation : Harmful by inhalation.

Ingestion : Harmful if swallowed.

Skin Contact : Corrosive to skin.

Eye Contact : Corrosive to eyes.

Chronic Effects

Adverse Effects : None identified.

Target Organs : Contains material which causes damage to the following organs: eyes, skin, upper respiratory tract, mucous membranes.

Carcinogenic Effects : None identified.

12. Ecological Information

Ecotoxicity Data

Ingredient Name	Species	Period	Result
iron(3+) chloride, hexahydrate	Fish (LC50)	48 hour(s)	23 mg/l
	Daphnia (EC50)	48 hour(s)	29.74 mg/l
Hydrogen chloride	Bluegill.	48 hour(s)	3.6 mg/l

Environmental Hazards : No known significant effects or critical hazards.

13. Disposal Consideration

Waste Handling and Disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport Information

United States

Shipping Description : Not regulated.

Packaging Instruction : No additional remark.

Remarks : **Packaging instruction**
Passenger Aircraft
Packaging instructions: 818

Cargo Aircraft
Packaging instructions: 820

Canada

Shipping Description : Not regulated.

Remarks : -

Sea

Shipping Description : Not regulated.

Air

Shipping Description : Not regulated.

15. Regulatory Information

US Regulations

Haz-Com Standard : Toxic
Target organ effects

EPA : TSCA 8(b) inventory: Water; Hydrogen Chloride (HCl)
SARA 302/304/311/312 extremely hazardous substances: Hydrogen Chloride (HCl)
SARA 302/304 emergency planning and notification: Hydrogen Chloride (HCl)
SARA 302/304/311/312 hazardous chemicals: iron(3+) chloride, hexahydrate; Hydrogen Chloride (HCl)
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: iron(3+) chloride, hexahydrate: Delayed (Chronic) Health Hazard; Hydrogen Chloride (HCl): Sudden Release of Pressure, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
CERCLA: Hazardous substances.: Hydrogen Chloride (HCl): 5000 lbs. (2268 kg);
Clean air act (CAA) 112 accidental release prevention: Hydrogen Chloride (HCl)
Clean air act (CAA) 112 regulated toxic substances: Hydrogen Chloride (HCl)
Clean Water Act (CWA) 311: Hydrogen Chloride (HCl)

State : Rhode Island RTK hazardous substances: Hydrogen Chloride (HCl)
Pennsylvania RTK: Hydrogen Chloride (HCl): (environmental hazard)
Florida: Hydrogen Chloride (HCl)
Minnesota: Hydrogen Chloride (HCl)
Massachusetts RTK: Hydrogen Chloride (HCl)
New Jersey: Hydrogen Chloride (HCl)

Canadian Regulations

WHMIS : Not a WHMIS controlled material.

CEPA : CEPA DSL: Water; Hydrogen Chloride (HCl)

Provincial : No products were found.

16. Other Information

Validated by baldwinron on 9/8/2004.

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Date of Printing : **9/8/2004.**

Notice to Reader

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.